Draft: Integration of Habitat Actions to Address Process, Function, & Structure in North Lake Washington Tributaries

Process: Forests, wetlands, floodplains, and riparian buffers provide critical hydrologic processes that temper high flows, flashiness, and erosion; maintain base flows; and protect water quality and water temperature.

Functions Provided: Water Quality
Water Quantity
Habitat

Land Use: Protect forest cover, minimize increases in impervious surfaces and road crossings through incentives and regulations (including stormwater and critical areas ordinances), encourage low impact development.

Site-Specific Actions: Purchase property or easements to protect parcels that include forests, floodplains, and riparian buffers.

Public Outreach: Promote public awareness of alternatives to impervious materials and effect of impervious surfaces on water quality and water quantity.

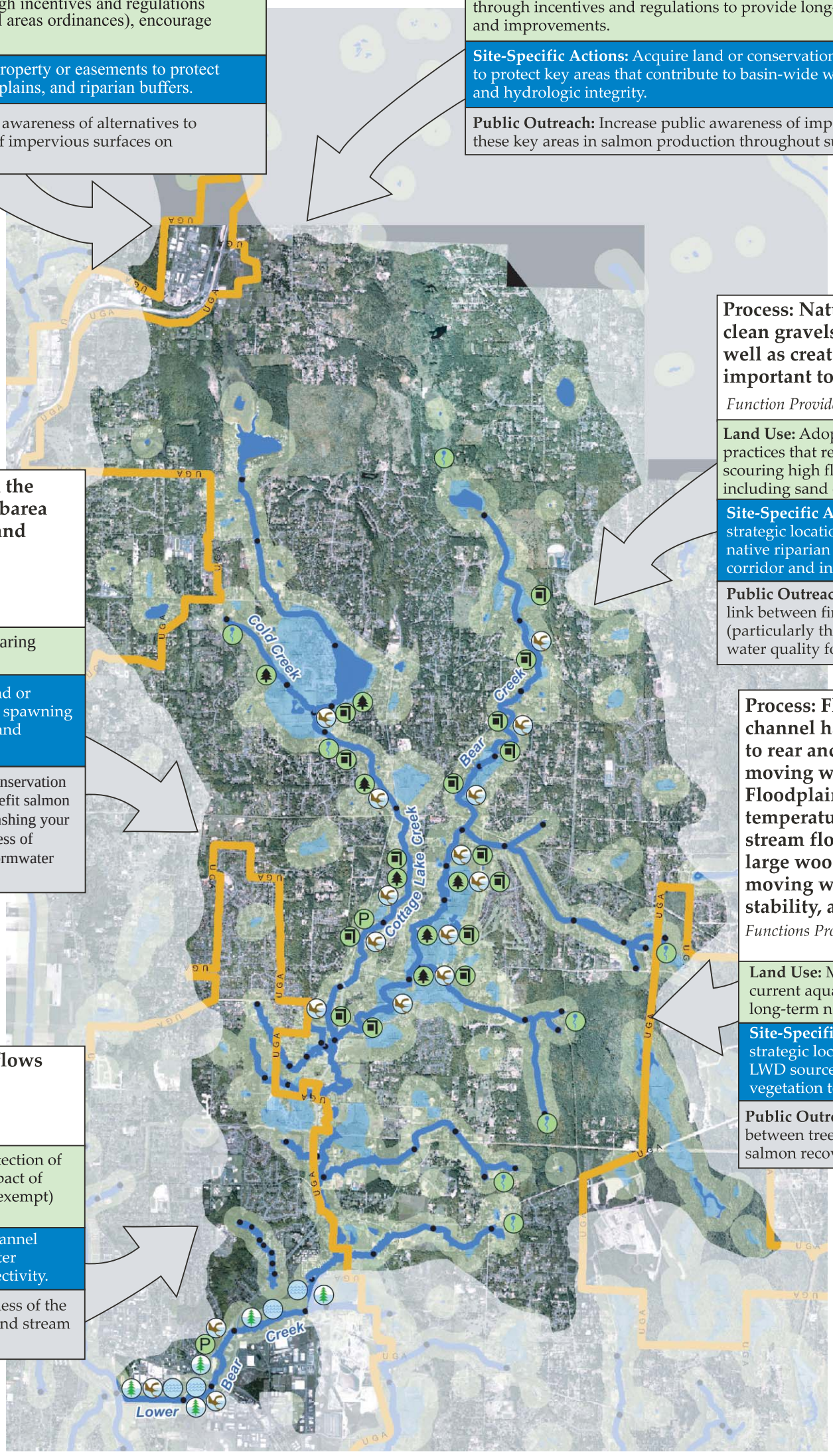
Process: Headwater areas, wetlands, and sources of groundwater (e.g., seeps and springs) maintain temperature and hydrologic integrity.

Functions Provided: Water Quality
Water Quantity

Land Use: Protect or restore headwater areas such as Cold Creek natural area, forest cover, wetlands, and groundwater sources through incentives and regulations to provide long-term protection and improvements.

Site-Specific Actions: Acquire land or conservation easements to protect key areas that contribute to basin-wide water quality and hydrologic integrity.

Public Outreach: Increase public awareness of importance of these key areas in salmon production throughout subwatershed.



Process: Natural processes deliver clean gravels to spawning areas, as well as create pools and riffles that are important to salmon.

Function Provided: Water Quality

Land Use: Adopt stormwater management practices that reduce sediment inputs from bed-scouring high flows and from non-point sources, including sand on roads and farm practices.

Site-Specific Actions: Construct LWD jams at strategic locations to reduce erosion. Plant native riparian vegetation to restore riparian corridor and increase bank stability.

Public Outreach: Promote understanding of link between fine sediments, metals (particularly those in household items), and water quality for salmon.

Process: Spawning areas in the North Lake Washington subarea are focused in Bear Creek and should be protected.

Functions Provided: Water Quality
Water Quantity
Habitat

Land Use: Continue to enforce clearing restrictions and aquatic buffers.

Site-Specific Actions: Acquire land or conservation easements to protect spawning areas, particularly in Upper Bear and Cottage Lake Creek.

Public Outreach: Promote water conservation and other everyday activities that benefit salmon (such as reduced pesticide use and washing your car on grass). Increase public awareness of linkages between home water use, stormwater run-off, and stream conditions.

Process: Floodplains provide off-channel habitat for juvenile salmon to rear and find refuge from fast-moving waters and predators. Floodplains reduce water temperatures, maintain adequate stream flows, and provide sources of large woody debris that slow fast-moving water, create channel stability, and create pool habitat.

Functions Provided: Water Quality
Habitat

Land Use: Maintain and effectively enforce current aquatic-area buffers to restore the long-term natural sources of LWD.

Site-Specific Actions: Construct LWD jams at strategic locations to address lack of natural LWD sources. Plant native riparian vegetation to restore riparian corridor.

Public Outreach: Promote understanding of link between trees today, fish habitat tomorrow, and salmon recovery.

Process: Adequate stream flows allow upstream migration and spawning.

Function Provided: Water Quantity

Land Use: Provide long-term protection of adequate flows by addressing impact of water withdrawals (illegal, legal, exempt) on flows.

Site-Specific Actions: Remove channel constrictions that limit groundwater interactions and hydrologic connectivity.

Public Outreach: Promote awareness of the link between water conservation and stream flows.

This graphic illustrates a representative sample of actions. It does not include all proposed actions.

Key to Action Types

Green denotes adjacent land use actions across the watershed or in the immediate vicinity of water or key habitats (e.g., wetlands) where regulations/incentives coupled with public education can protect or restore water quality or quantity, and habitat conditions. In the short- and long-term, land use actions in these areas have a major effect on aquatic habitat conditions and the processes that create and maintain that habitat.

Blue denotes areas along water bodies where site-specific actions are proposed to protect or restore specific stream reaches. Such actions may protect or restore habitat functions, or address symptoms of degraded habitat functions. These actions are supported by land use and public education actions that protect habitat processes and functions throughout the watershed.

Gray denotes areas where broader and public outreach actions are proposed throughout the watershed. Responsible land stewardship and low impact development protect and maintain natural flow regimes and water quality.

Examples of Site-Specific Project Recommendations

Restoration by Reach
- Add LWD as Opportunities Arise
- Provide Enhanced Flows
- Restore and Replant Riparian Vegetation
- Reforest Cleared Areas

Protection by Reach
- Protect Riparian Habitat through Acquisition
- Protect Headwaters and Springs
- Protect Large/Public Parcel of Land

- Study Reaches (EDT)
- Water Body
- Urban Growth Boundary
- Wetland
- Merged Buffer

Scale in Miles: 0 0.25 0.5 0.75 1
Scale in Kilometers: 0 0.5 1 1.5 2

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